

for the most part unknown. Of >100 countries that are not capacitated to report TB resistance surveillance to WHO, the majority reside in Africa. Global estimates are therefore extrapolated from different sources. The South African MDR/XDR TB burden is similarly estimated and for the most part incomplete.

**Discussion:** An MDR TB survey of 2001 (MRC) estimated the burden of MDR TB at levels between 1–3% with isolated hotspots. It was not designed to estimate XDR TB and was a classic “point prevalence” study that sampled from limited sites. KZN has been the only South African province with an expanded portfolio of routine susceptibility testing for second-line drugs for all clinical isolates. “XDR” TB has been documented since the late 1980’s and described in treatment cohorts admitted for care. These results will be presented. The TFO however recorded the highest cluster of individual cases ever reported and exposed the limitations of the current surveillance strategy that depended on periodic cross-sectional surveys. As a result the MRC has embarked on a rapid surveillance project identifying regions in the province where XDR TB has been identified and targeting these settings for an in-patient and out-patient surveillance project.

**Conclusions:** The recommendation for a continuous, expanded, country-wide surveillance system is self-evident if only to accurately inform the currently straining programmatic management of drug-resistant TB and to provide the early warning signals of programmatic failure.

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#### MDR-TB and XDR-TB in Asia

T.E. Tupasi

*Tropical Disease Foundation, Makati, Metro Manila, Philippines*

It is estimated that there were 149,615 (95% CLs, 114,780–217,921) incident MDR-TB cases in South East Asia in 2006, 74% were in India while there were 152,694 (95% CLs, 119,886–188,014) incident MDR-TB cases in the Western Pacific region in 2006, with almost 85% of these cases estimated to be in China. The proportion of XDR-TB among MDR-TB was highest in Japan, 30.9% followed by 14.6% in Hong Kong, SAR, 3.4% Philippines, 1.8% Korea, 1% Bangladesh, and one case each in Vietnam, India, China and Nepal. Population-based studies still have to be undertaken to know the real magnitude of XDR-TB.

Extensively drug-resistant TB (XDR-TB) was first described in 2006 in 40 Of 49 countries studied with 4% of MDR-TB isolates in the USA, 19% in Latvia and 15% in Korea among chronic cases. An outbreak of XDR-TB among 54 patients with a high prevalence of HIV in South Africa reported in 2006 was characterized by high early mortality of 98% and nosocomial transmission as well as transmission in the community. This outbreak demonstrated that XDR-TB is a threat to both TB and HIV control and emphasized the need for infection control measures in health facility settings.

XDR, defined as MDR-TB plus simultaneous resistance to a fluoroquinolone and an injectable second line anti-

TB drug, showed a cure rate that was significantly low and a failure rate that was high compared to other MDR-TB patients in Latvia. To respond to this crisis, the WHO Global Response plan 2007–2008 emphasized the need to strengthen basic DOTS and HIV programs, to scale up the programmatic management of MDR-TB, strengthen laboratory services to support M(X)DR-TB diagnosis, expand M(X)DR-TB surveillance to study trends and link with HIV, foster sound infection control, promote research on the development of new diagnostics, drugs, and vaccines. Much like MDR-TB which is the consequence of poor DOTS, XDR-TB is the consequence of poor MDR-TB management.

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#### Rapid Diagnosis of MDR-TB in Low-resource Settings

D.A.J. Moore

*Wellcome Centre for Clinical Tropical Medicine Imperial College London, London, United Kingdom*

According to the inverse-care law, the highest standard of care is least available to those most in need. Diagnosis of drug-resistant TB has long been a clear example of this phenomenon. In recent years a number of candidate diagnostic tests have been developed in both the academic and commercial sectors which present potential opportunities to aggressively address this inequity. This talk will discuss some of the currently available tools that are suitable for resource-limited settings, their relative merits and drawbacks, and a number of implementation challenges common to all, drawing on experience from Peru.

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#### The Epidemiology of MDR-TB in Peru

E. Gotuzzo

*Instituto de Medicina Tropical ‘Alexander Von Humboldt’, Lima, Peru*

TB in Peru has been known since the pre-hispanic period in mummies.

Peru and Haiti has had the highest rate of prevalence in America (>160 × 105 per habitant), where more than 65% of cases of pulmonary TB has sputum positive.

Recently, the WHO recognized the Peruvian DOT as one of the best worldwide programs to have reach the two goals of the DOT (Diagnosis in more than 90% cases and cure rate more than 90%) decreasing the incidence in 5-6% per year in the last 10 years.

However, in the shanty towns of Lima, the rate of MDR-TB has being increasing in an important way, spreading to urban parts of the big cities. Leaving in the North of Lima has been noted as a risk factor, where the primary rate of MDR TB is 6%, while in the South of Lima is just 2%. The most know risk factors are having an intra-domiciliary TB contact and a treatment failure in the second of month of the first line therapy; others include Diabetes Mellitus, AIDS/HIV and health care workers. Also, 10-15% of MDR TB cases are XDR.